



WORLD WIDE WEAVE

University of Copenhagen

SMD-MEDIAMESH[®] as an emotional bridge
between architecture and people

Architecture and design have a great tradition in the small country of Denmark. Outstanding contemporary architecture projects of Danish planners are setting standards worldwide. As one of Denmark's leading architectural offices, Arkitema Architects is responsible for a large number of sophisticated projects, including the KUA 2 extension at the University of Copenhagen, which was completed in 2013. With the installation of a large-format SMD-MEDIAMESH[®] screen on the front of one of the four characteristic blocks, the University's aspiration to create a dynamic and open study environment has been newly interpreted. The transparent media façade system supplied by GKD – Gebr. Kufferath AG provides an artistic link between the strict urban structures and the multi-faceted educational concept.

With six faculties, over 200 study programmes and more than 40,000 students, the University of Copenhagen is among the largest research and education institutes in Scandinavia. Since the 1970s, some of the courses have been held at the "University of Copenhagen on Amager" (KUA) on the island of Amager in the south of Copenhagen, which is where, around twenty years later, the avant-garde Copenhagen district of Ørestad was also established. At the end of the 1990s, the decision was taken to replace the buildings erected on Amager in the 1970s (which were only ever intended to be a temporary teaching venue solution) with a new campus for the Humanities, Law and Theology faculties. An architecture competition was therefore launched and ultimately won by Arkitema Architects with their concept for a *new* KUA, which was subsequently implemented in three construction phases. The objective of the concept was to create optimum working



conditions for research and teaching activities, taking into account sophisticated sustainability aspects, and align these with the requirements of the users.

New heart for the campus on the island

As part of the building trilogy, the University's new central building on Amager, KUA 2, is also home to the Humanities faculty. Based on economic and ecological considerations, parts of the former concrete structures were reinforced, updated to comply with modern safety standards and re-used. According to the master plan for Ørestad, the three-story, glass-fronted base structures are arranged north-south. Four vertically integrated blocks with large glazed façades connect the glass strips over two levels. The pulsating heart of the campus is the covered central courtyard with its many services and amenities. Alongside cafés, a book store, conference room, copy shop and television studio, a one-stop shop ensures vibrant interactions between students and lecturers. The Institutes, laboratories and seminar rooms are lined up in a row to create a so-called "learning street", and thereby generate additional synergies. Despite the fact that the campus has been extended to approximately 37,000 square metres, the steel, glass and aluminium buildings offer a sense of visual lightness. The façade cladding for the vertical blocks in the form of upright travertine plates with narrow vertical joints subtly underlines the modern character of the buildings.

Shining example as low-energy house

The sustainability of the design formed the basis of the plans for Arkitema Architects. Scandinavia has some of the world's strictest energy efficiency requirements. By 2025, Copenhagen is seeking to become the world's first CO₂-neutral city and therefore considers itself a forerunner in the field of sustainable building. In 2014, the city was named European Green Capital by the European Commission. With grass roofs, solar heating and photovoltaics, optimum daylight utilisation, natural ventilation and use of rainwater for flushing toilets in a section of the building, KUA 2 is a great example of this. The fact that the building is



consistently aligned with the requirements of its users underlines the holistic sustainability strategy of the planners. For example, the glazed façades not only reduce the dominance of the overall structure, but also grant unrestricted views of the campus and the other side of the neighbouring conservation area throughout the entire building. Solar protection systems made of GKD Tigris stainless steel mesh also make a valuable contribution to reducing solar input without compromising on light yield or visibility. Arkitema Architects utilised these benefits again one year after completion of the KUA 2 with the installation of a 90 square metre, transparent media façade system made of GKD metallic mesh. The woven structure of the display on the façade of the outer right-hand block grants both students and lecturers an unobstructed outward view, while maintaining the same high level of daylight. SMD lines are integrated into the mesh with outdoor RGB SMDs at vertical spacing of 3.75 cm and horizontal spacing of 4.25 cm. Alongside its exceptional colour reproduction and resolution, this design impresses with its power consumption of just 160 W per square metre, which is considerably lower than other systems. With a keen eye on the overall concept of KUA 2, which focuses on visual lightness, the sophisticated design of the woven media façade also provided the perfect platform for what is currently the highest resolution MEDIAMESH[®] system available for outdoor applications. The low weight was also a key factor in selecting this particular system. Planning the complete MEDIAMESH[®] system, including the external electronics for the substructure in place, represented a challenge for the specialists at GKD. The ultimate solution employed the tried and tested mounting concept with round profiles and eyebolts. To promote its aspiration of open exchange between lecturers, professors, students, residents and passers-by, the University of Copenhagen commissioned a local artist to design the content for the media screen. Photorealistic images depicting nature and the country turn the installation into a kind of emotional bridge between people, culture, nature and technology.



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4.169 characters incl. spaces

GKD – WORLD WIDE WEAVE

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